

1 1. A method of graphical block diagram modeling, comprising:
 2 providing graphical blocks interconnected to form a graphical subsystem block;
 3 constructing a graphical class instance of a graphical class that corresponds to the
 4 graphical subsystem block for use in a graphical block diagram model of a user;
 5 enabling a change to a value of a parameter of a selected one of the graphical blocks
 6 to be made by the user; and
 7 constructing from the graphical class instance and the change a graphical subclass
 8 instance that inherits structure from the graphical class.

1 2. The method of claim 1, wherein enabling comprises:
 2 providing to the user a user interface having a dialog box corresponding to the
 3 selected one of the graphical blocks to accept input from the user for any parameter that can
 4 be changed.

1 3. The method of claim 1, further comprising:
 2 storing data associated with the change in a data structure as subclass data, the
 3 subclass data in the data structure defining a subclass from which the graphical subclass
 4 instance is instantiated.

1 4. The method of claim 3, further comprising:
 2 wherein the subclass data includes a relative path to the graphical subsystem block, a
 3 name of the parameter and the changed value.

1 5. The method of claim 1, further comprising:
 2 merging the graphical subclass instance with the graphical class.

1 6. The method of claim 1, further comprising:
 2 associating a visual cue with the graphical subclass instance to allow the user to
 3 distinguish the graphical subclass instance from the graphical class instance.

7. The method of claim 6, wherein the user is provided a display of the selected graphical block that has a title, and further wherein associating comprises modifying the title to indicate to the user that a graphical subclass instance has been constructed for the selected block.

8. The method of claim 6, wherein the user is provided with a display of the graphical block diagram model that includes the graphical subsystem block, and further wherein associating comprises modifying the display indicate to the user that a graphical subclass instance has been constructed for the selected block.

9. The method of claim 10, wherein the structure comprises connectivity and layout information.

10. A method of graphical block diagram modeling, comprising:
 providing a class library comprising graphical classes defined in terms of graphical subsystem blocks, the subsystem blocks comprising sub-blocks; and
 creating a graphical subclass of a selected one of the graphical classes by modifying a sub-block parameter that is not a top level parameter of the selected class, wherein the subclass inherits subsequent changes to the graphical class.

11. A computer program product residing on a computer-readable medium for graphical block diagram modeling, the computer program comprising instructions causing a computer to:

provide graphical blocks interconnected to form a graphical subsystem block;
 construct a graphical class instance of a graphical class that corresponds to the graphical subsystem block for use in a graphical block diagram model of a user;
 enable a change to a value of a parameter of one of the graphical blocks to be made by the user; and

9 construct from the graphical class instance and the change a graphical subclass
10 instance that inherits structure from the graphical class.

1 12. A computer system comprising:

2 means for providing graphical blocks interconnected to form a graphical subsystem
3 block;

4 means for constructing a graphical class instance of a graphical class that corresponds
5 to the graphical subsystem block for use in a graphical block diagram model of a user;

6 means for enabling a change to a value of a parameter of a selected one of the
7 graphical blocks to be made by the user; and

8 means for constructing from the graphical class instance and the change a graphical
9 subclass instance that inherits structure from the graphical class.

1 13. A computer system comprising:

2 means for providing a class library comprising graphical classes defined in terms of
3 graphical subsystem blocks, the subsystem blocks comprising sub-blocks; and

4 means for creating a graphical subclass of a selected one of the graphical classes by
5 modifying a sub-block parameter that is not a top level parameter of the selected class,
6 wherein the subclass inherits subsequent changes to the graphical class.